INSTRUCTION MANUAL

FOR THE

OPTICS AND OPTICAL STRUCTURE B CONFIGURATION

15 SEPTEMBER 1956

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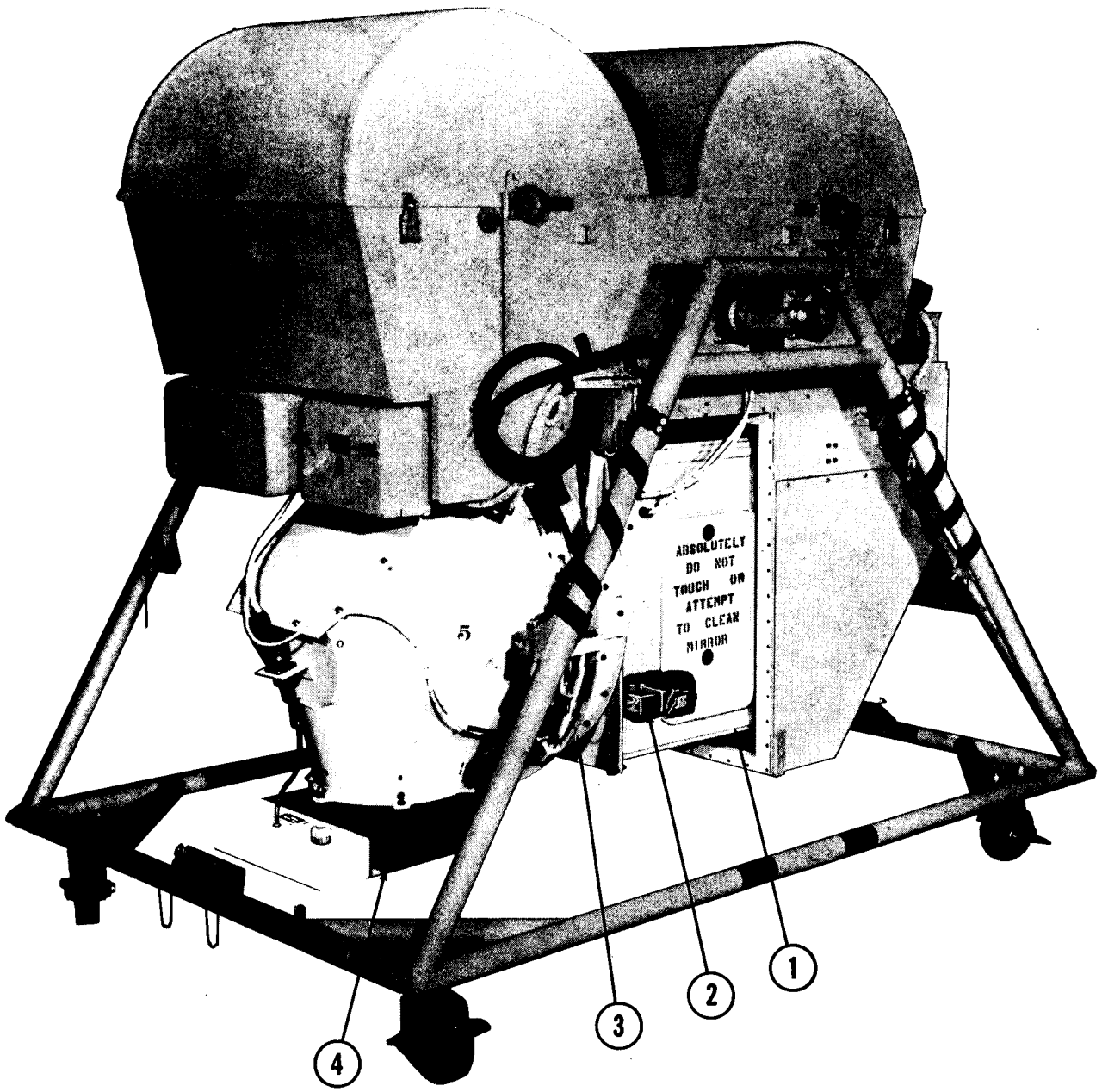


1. PLATEN SUPPORT STRUCTURE	3. INTERMEDIATE OPTICAL STRUCTURE
2. TIME-DATA RECORDER	4. LENS CONE ASSEMBLY

Figure 1-1. Optics and Optical Structure, B Configuration

Section I

DESCRIPTION

1-1. GENERAL (See figure 1-1.)

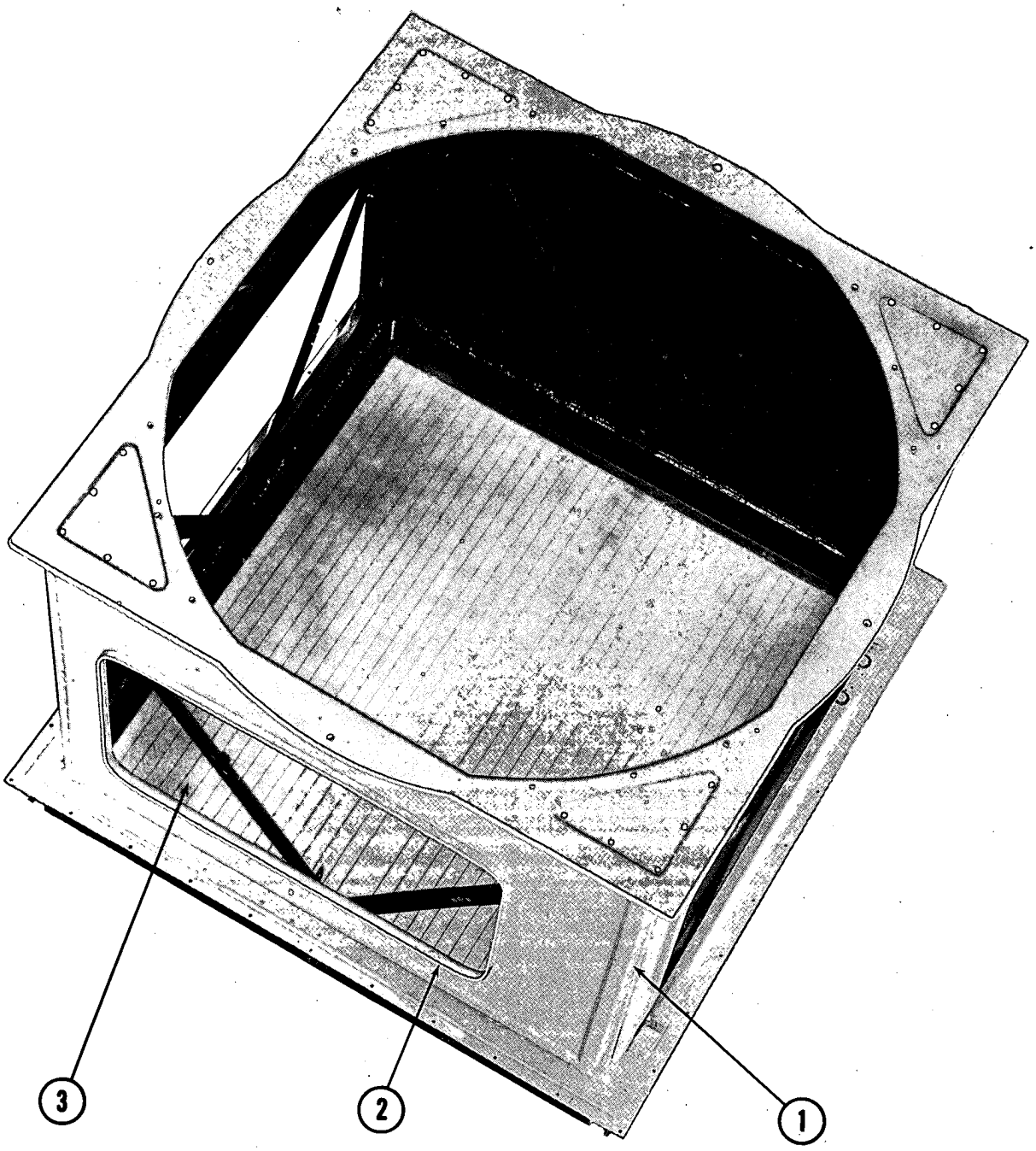
The Optics and Optical Structure, B Configuration, provides the proper focal length and necessary light-tight mounting bases for the various components of the optical system. The optical structure also provides the proper IMC and oblique sequencing as required by the individual modes of operation, insuring optimum operation of the camera configuration.

1-2. MAJOR COMPONENTS

The Optics and Optical Structure, B Configuration, consists of the following major components: a Platen Support Structure; a Time-Data Recorder; an Intermediate Optical Structure; and a Lens Cone Assembly.

a. Platen Support Structure. (See figure 1-2.) The platen support structure is a welded aluminum frame which supports the camera platen and the Time-Data Recorder. The frame is approximately 20-inches square with an aluminum plate riveted to its aft end. Plastic panels are bonded to all sides of the frame, forming a light-tight enclosure. Accesses with easily removable covers are provided on two sides and on the bottom for accessibility. The frame is bolted to the forward end of the Intermediate Optical Structure by means of 16 bolts. A rubber-impregnated fabric bellows, attached to the forward end of the frame, provides a light-tight cover and allows the optical structure to move during IMC.

The platen consists of a honeycomb-type aluminum panel, two aluminum side plates, and a contoured, slotted, aluminum face plate. The platen is approximately 20-inches square by 7/8-inch thick, and is attached to the platen support frame by means of four bolts. The two plates are bonded by a special bonding agent, one to each side of the honeycomb panel. The face plate is bonded by the same bonding agent to the aft side of the platen structure. A vacuum fitting is installed on the forward side of the platen.



1. PLASTIC PANEL
2. ACCESS (TYPICAL)
3. PLATEN

Figure 1-2. Platen Support Structure

A notched aperture plate is installed between the platen and the platen support structure. This plate forms a frame on each film exposure in which time and counter data are recorded. The notches help to align the film halves when forming a complete picture. A bracket, to which the two IMC cam followers and a film guide roller are attached, is bolted to the forward end of the platen support. Platen film guide rollers are installed on the top and bottom of the platen.

b. Time-Data Recorder. (See figure 1-3.) The time-data recorder is located on the bottom plastic panel of the platen support structure between the access and the platen and is centered on the structure. The recorder consists of a manually wound time piece, a four digit electrical counter, a plastic data recorder card, two lights, and two lenses. The lights and the counter are controlled electrically by a cam-actuated switch in the film drive assembly. The counter records the number of film frames exposed during flight. Information such as flight number, airframe number, type of operation, etc., are hand-written on the recorder card before flight. The lights are used to illuminate the counter, the time piece, and the recorder card, so that for every frame of film exposed there will be a complete photographic record of the time of exposure, the number of the exposure, and the flight data for that particular flight.

c. Intermediate Optical Structure. (See figure 1-4.) The intermediate optical structure consists of a machined, stainless steel cylinder, three inches long, with a diameter of approximately 20 inches. The oblique bearing is attached to the aft end of the structure by means of 16 screws. A mounting ear is bolted to each side of the structure. These mounting ears support the entire optical structure system, and provide pivot points for IMC action.

d. Lens Cone Assembly. (See figure 1-5.) The lens cone assembly consists of the lens cone, the mirror, and the lens assembly.

(1) Lens Cone. The lens cone is a welded, steel, cone-shaped assembly which is used as a mounting base for the lens assembly and the mirror assembly. The lens cone is attached to an oblique bearing on the intermediate optical structure by means of 16 screws. The lens cone, in conjunction with the oblique drive system, is rotated to the various oblique positions determined by the mode of operation selected.

(2) Mirror. The mirror is a precision front-surface unit, elliptical in shape, which is 18.19-inches at the widest point, and 12.36-inches at the narrowest point. The mirror is mounted on a steel "A" frame by means of two bolts at the aft end and a ball-and-cup type pivot-bolt at the forward end. The aft end of the "A" frame is attached to a bracket which is bolted to the lens cone. The forward end of the "A" frame is attached to the lens cone by means of two screws.

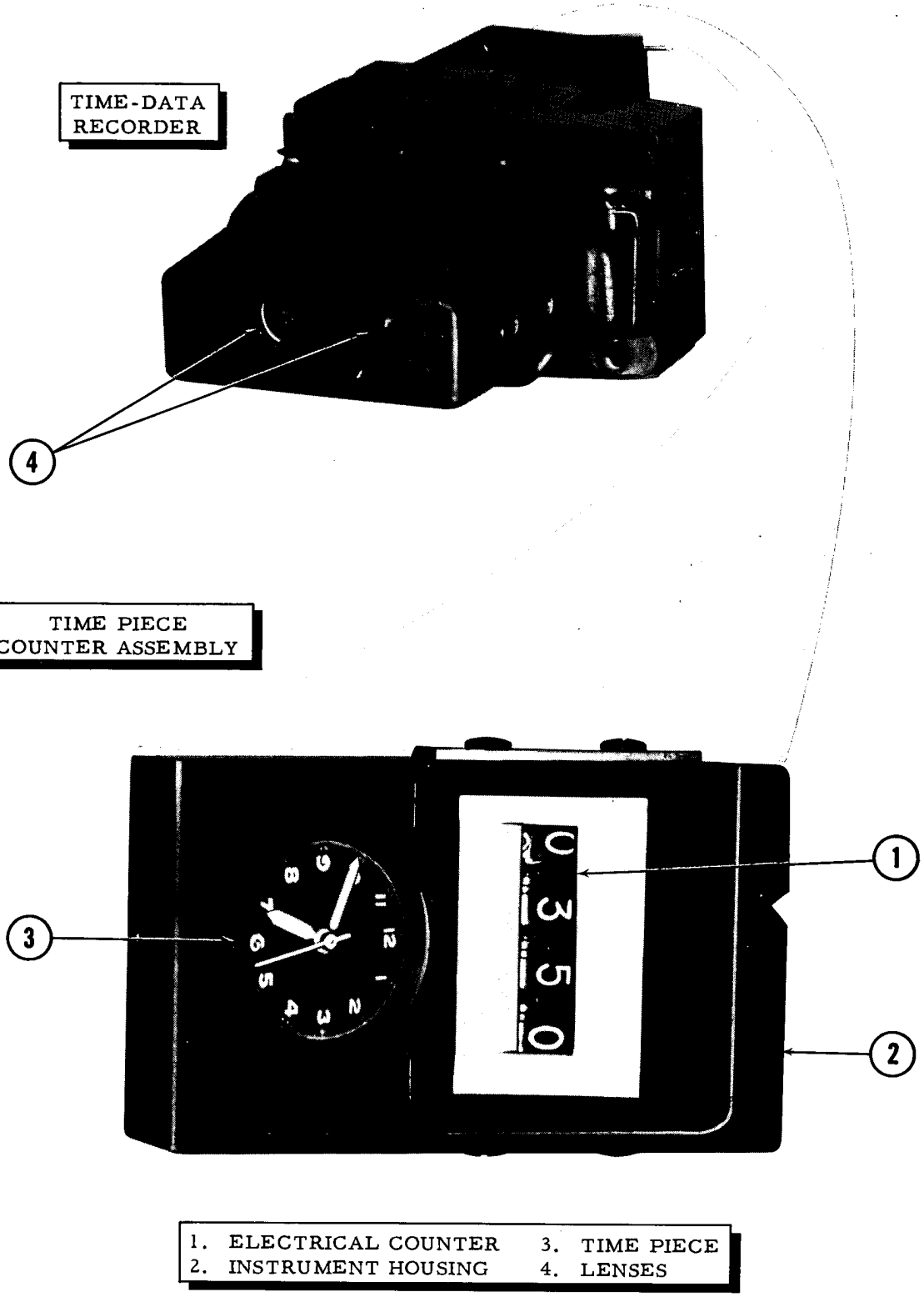


Figure 1-3. Time-Data Recorder

The mirror adjustment points are easily accessible through a removable cover on the lens cone. The mirror is adjustable around two axes, so that the camera image is reflected on the center of the platen.

(3) Lens Assembly. The lens assembly, which consists of a machined aluminum lens barrel and three lens sections, is attached to the lens cone by means of six bolts. There is an air space between the first and second lens sections called the shutter shelf, into which the shutter is inserted through a slot in the lens barrel. The shutter is secured to the lens barrel by means of three easily accessible bolts.

The three sections of the Pentac f/10 lens have been laminated from five lens elements, with the first section consisting of two elements, the second one element, and the third two elements and a coated yellow filter. The lens' entrance pupil is 3.6 inches in diameter with a focal length of 36 inches, as measured from the center of the entrance pupil to the mirror, and thence to the center of the platen.

1-3. LEADING PARTICULARS

a. Overall Dimensions.

Length	43 inches
Width	28 inches
Height	27 inches

b. Weight.

Optical Structure	77.0 pounds
Mirror	15.5 pounds
Lens Assembly	27.0 pounds
Total	119.5 pounds

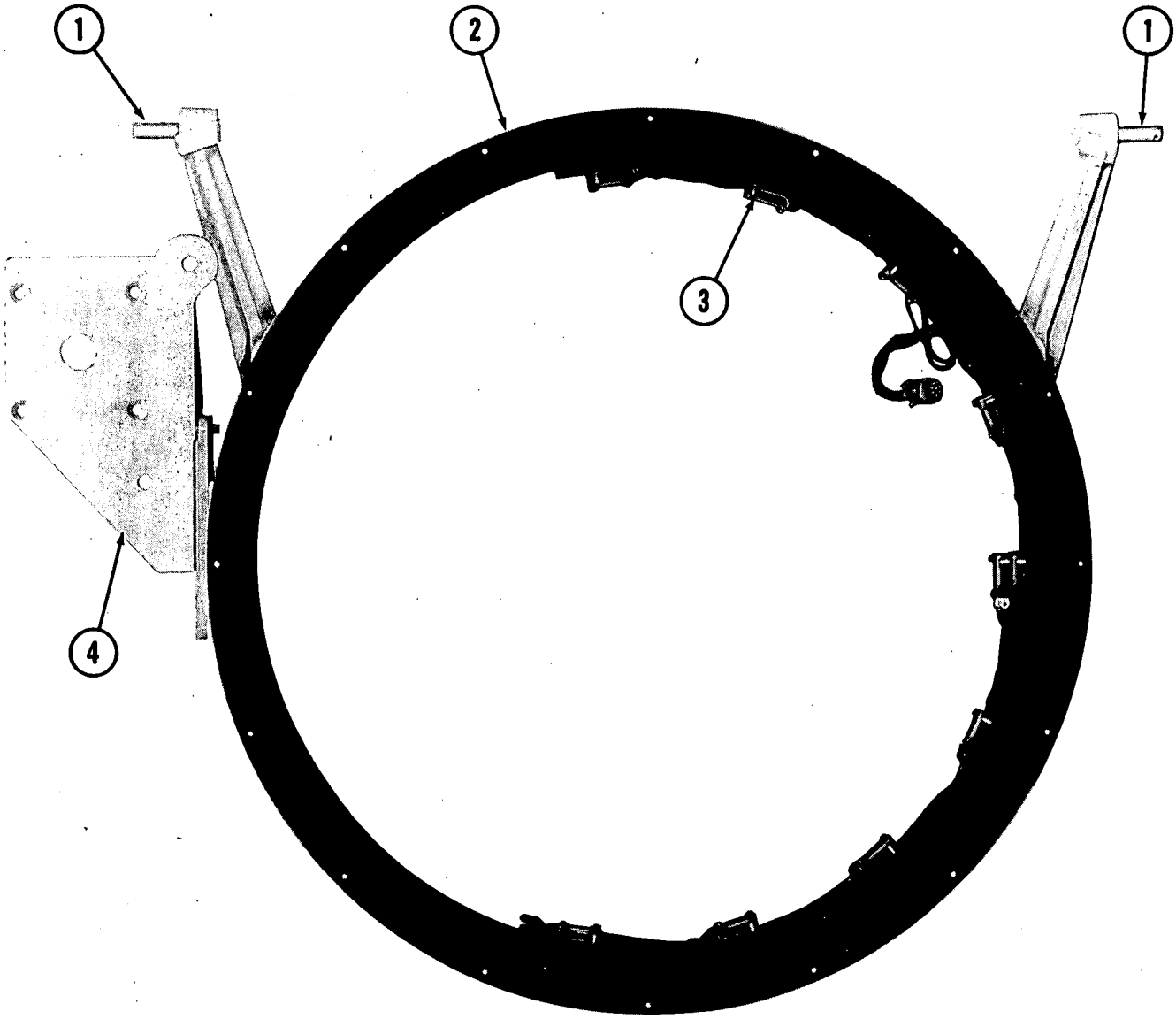
c. IMC Action During Mode 1.

IMC Period Time	0.77 seconds
IMC Degree of Travel	0.716 degrees

d. IMC Action During Mode 2.

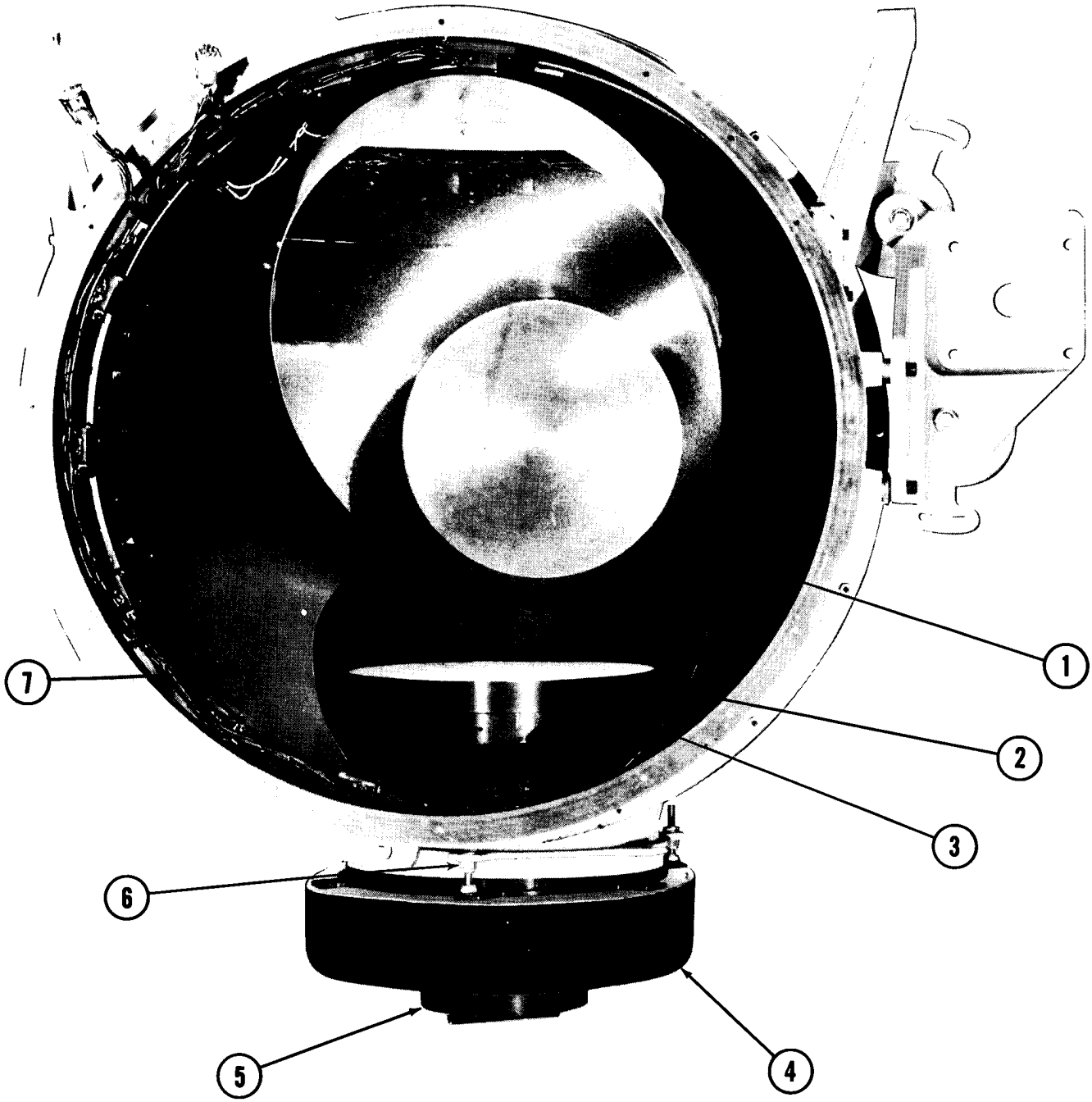
IMC Period Time	1.28 seconds
IMC Degree of Travel	1.193 degrees

e. Required Power . . . . . 27.5 ±2.5 volts DC



1. PIVOT, IMC	3. MICROSWITCH (TYPICAL)
2. STRUCTURE CYLINDER	4. MOTOR MOUNTING BRACKET

Figure 1-4. Intermediate Optical Structure



1. MIRROR	5. OUTER LENS COVER
2. LENS COVER	6. MOUNTING BOLT, LENS ASSEMBLY (TYPICAL)
3. LENS ASSEMBLY	7. LENS CONE
4. SHUTTER SHELF HOUSING	

Figure 1-5. Lens Cone Assembly

Section II

THEORY OF OPERATION

2-1. GENERAL

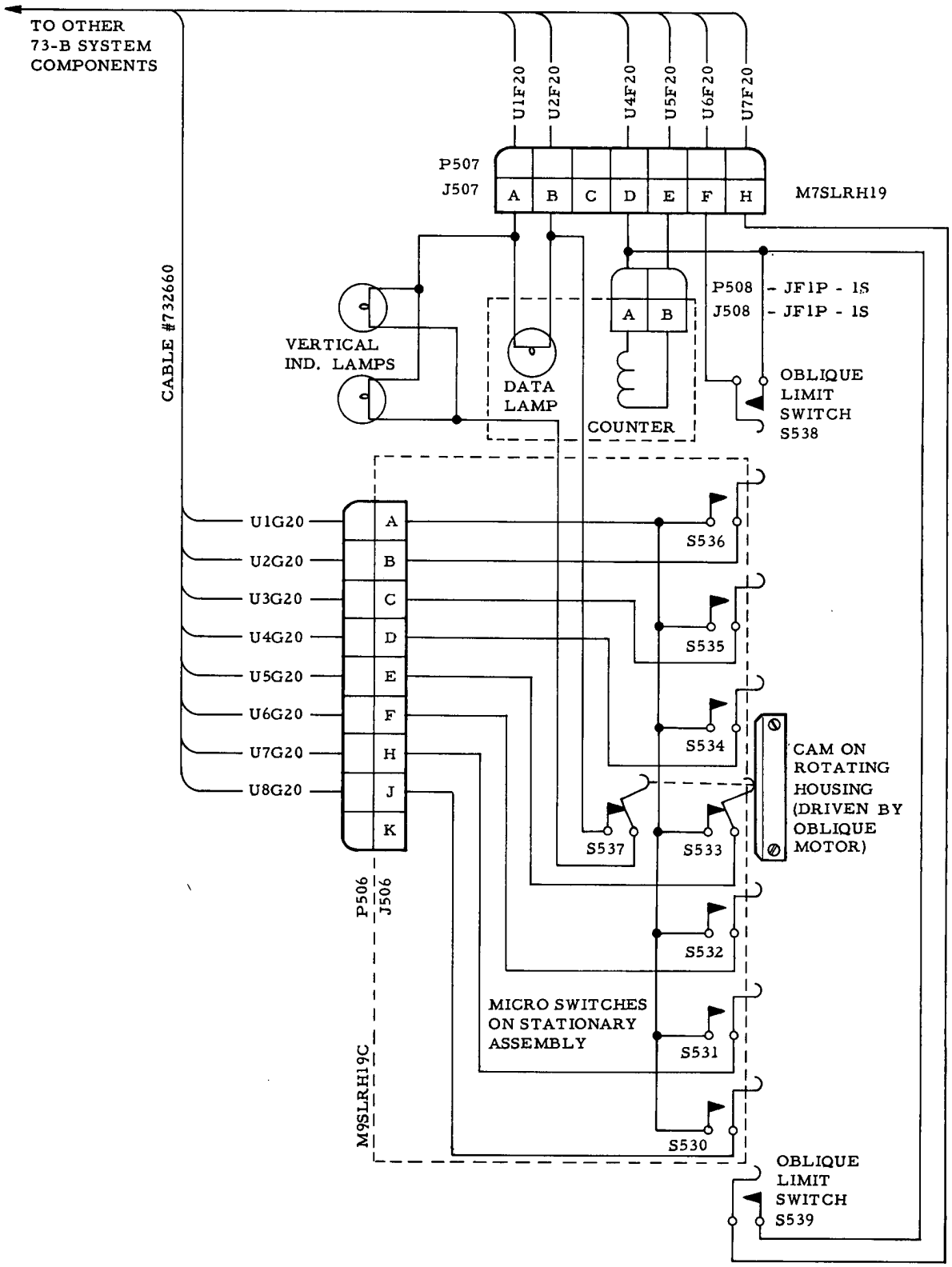
The only operation pertaining to the optics and optical structure is that of IMC action in the various operational modes of the B Configuration System.

2-2. MODE 1 IMC ACTION

When Mode 1 is selected at the hand control unit, power is supplied through the programmer to the IMC motor. The IMC motor starts to drive the IMC cycle shaft, which in turn rotates the IMC mode cam assembly. The IMC mode cam assembly is equipped with two mode cams which are installed side by side with their lobes 90 degrees apart. The cam followers, located on the platen support structure, are installed in such a way that they are always in contact with their respective mode cams. When the cams rotate they cause the optical structure to oscillate. This oscillating motion is centered at the two pivot points on the intermediate optical structure. The IMC action causes the camera to be aimed at one particular point during the IMC period. The time-data recorder unit is actuated near the beginning of the IMC period by its cam-actuated IMC cycle shaft driven switch. The Mode 1 IMC period time is 0.77 seconds, and the degree of IMC motion is 0.716 degrees.

2-3. MODE 2 IMC ACTION

IMC action in Mode 2 is produced in the same manner as that explained in Mode 1, with the exception of the necessary exchanging of IMC cycle shaft mode gears, the installation of a Mode 2 IMC mode cam assembly, and the positioning of the mode switch in the programmer unit. The Mode 2 IMC period time is 1.28 seconds, and the degree of IMC motion is 1.193 degrees.



2-1. Electrical Schematic

Section III

PREPARATION FOR OPERATION

3-1. GENERAL

Preparing the Optics and Optical Structure, B Configuration, for operation consists of visual and focusing checks. The outside and inside lens covers must be removed, and the lens surfaces must be cleaned. All light-tight covers should be checked for security of installation. All electrical connections should be checked for tightness. The focus check consists of checking the lens focus and checking for any misalignment of the optical system.

3-2. CLEANING LENS

a. Remove outside lens cover.

b. Remove one of the inspection panels on the platen support structure.

c. Remove the inside lens cover.

d. Using a lens cleaning solution, clean the lens surfaces with surgical cotton. Rinse with distilled water.

e. Dry lens surfaces with lens tissue.

f. Using an anti-static brush, remove any lint or other foreign particles from the lens surfaces.

g. Replace platen support structure inspection panel.

3-3. PREPARING THE TIME-DATA RECORDER FOR OPERATION

a. Remove one of the inspection panels on the platen support structure.

b. Remove the time-data recorder electrical plug.

c. Remove the time-data recorder instrument housing assembly.

d. Manually set the counter at zero.

e. Wind the time piece.

f. Synchronize the time piece with the aircraft observer and/or the aircraft clock.

g. Write the required flight information on the data card.

h. Replace time-data recorder instrument housing assembly.

i. Replace time-data recorder electrical plug.

j. Replace platen support inspection panel.

3-4. PREFLIGHT FOCUS CHECK

a. Remove airframe top hatch.

b. Remove airframe camera window hatch.

c. Place camera oblique structure in vertical position.

d. Level airframe so that camera lens is perpendicular to the ground.

e. Remove one of the platen support structure inspection panels.

f. Thread a reflectance-coated film leader over platen.

g. Apply a source of vacuum to the platen .

h. Place collimator beneath the camera lens with the collimator longitudinal axis at a 90 degree angle to the camera line of flight. Situate the collimator so that the mirror is directly beneath the camera lens.

i. Level the collimator.

j. Drape a cloth around the collimator to limit the amount of stray light on the collimator mirror.

k. Turn the collimator light on and adjust the collimator mirror so that the light is reflected back into the collimator.

l. Adjust and record the collimator image focus as indicated on the collimator micrometer screw.

m. Adjust the collimator mirror so that the light is reflected on the center of the camera platen.

n. Focus the collimator image.

o. Using a camera, photograph the collimator image.

p. Record the image focus as indicated on the micrometer screw.

q. Move the collimator forward in line from the camera lens, tilting the collimator mirror, placing the collimator image approximately eight inches from the platen center.

r. Repeat steps n through p.

s. Move collimator backward in line from camera lens, tilting the collimator mirror, placing the collimator image approximately eight inches from the opposite side of the platen center.

t. Repeat steps n through p.

u. Place collimator beneath the camera lens with the collimator longitudinal axis parallel with the camera line of flight. Situate the collimator so the mirror is directly beneath the camera lens.

v. Repeat steps i through t.

NOTE

The above steps determine the alignment or misalignment of the camera mirror and lens. If any of the above lens focus points are not within ±0.035 inch of the original collimator focus, the camera system must be returned to the factory for overhaul.

NOTE

The following steps will determine the wear of the oblique bearing, or distortions of the camera frame at oblique angles.

w. Disconnect oblique drive belt.

x. Manually rotate lens cone to as great an oblique angle as possible.

y. Connect oblique drive belt and lock lens cone.

z. Place the collimator in such a position that the collimator longitudinal axis is 90 degrees to the camera line of flight, and so that the collimator mirror is facing directly into the camera lens.

aa. Repeat steps i through t.

ab. Place the collimator in such a position that the collimator longitudinal axis is parallel to the camera line of flight, and so that the collimator mirror is facing directly into the camera lens.

ac. Repeat steps i through t.

NOTE

Compare the vertical and oblique image focus readings. If the difference between the vertical and oblique image focus readings differ more than ±0.070 inch, the camera system is to be returned to the factory for overhaul.

Section IV

POSTFLIGHT OPERATION

4-1. GENERAL

Postflight operation consists of a focus check of the optical system, a time-data recorder check, and the installation of the two lens covers.

4-2. INSTALLING LENS COVERS

a. Remove one of the platen support structure inspection panels.

b. Install inside lens cover.

c. Replace platen support structure inspection panel.

d. Install outside lens cover.

4-3. TIME-DATA RECORDER CHECK

a. Remove one of the platen support structure inspection panels.

b. Remove time-data recorder electrical plug.

c. Remove time-data recorder instrument housing assembly.

d. Record the number shown on the electrical counter.

NOTE

Subtract the final number of counts on the life cycle counter from the original number of counts on the life cycle counter. The difference

in counts represents the number of revolutions of the IMC cycle shaft for this particular operational sequence and should be the same as the number of counts on the electrical counter.

e. Replace time-data recorder instrument housing assembly.

f. Replace time-data recorder electrical plug.

g. Replace platen support structure inspection panel.

Section V

MAINTENANCE

5-1. GENERAL

Maintenance of the Optics and Optical Structure, B Configuration, consists mainly of keeping the system clean and light-tight.

5-2. SPECIAL TOOLS

No special tools are required to maintain the optics and optical structure system.

5-3. LUBRUCATION

The Optics and Optical Structure is lubricated at the factory at the time of assembly and should require no further lubrication in the field.

5-4. PERIODIC INSPECTION

No periodic inspection information is available at this time.

Section VI

OVERHAUL

6-1. GENERAL

The Optics and Optical Structure, B Configuration, will require no overhaul in the field. If a major malfunction should occur, the optics and optical structure system must be returned to the factory for overhaul.

Section VII

PARTS LIST

PART NO.	PART NAME	UNITS PER ASSEMBLY
32-OOSBC-732710	OPTICAL SYSTEM ASSEMBLY	1
32-OOSBC-732721	PLATEN SUPPORT ASSY	1
32-OOSBC-732101	PLATEN & ROLLER ASSY	1
32-OOSBC-731323	PIN, Dowel, Fiducial	12
32-OOSBC-732102	PLATEN ASSY	1
32-OOSBC-732111	FACE PLATE	1
32-OOSBC-732112	PLATE, Backing	1
32-OOSBC-732113	FITTING, Vacuum	1
32-OOSBC-732114	INSERT, Platen	6
32-OOSBC-732104	CENTER ROLLER SUPPORT, Bottom	1
32-OOSBC-732115	ROLLER SUPPORT, Center Bottom	1
32-OOSBC-732116	PIN PIVOT, Center Supports	1
32-OOSBC-732105	SIDE BRACKET, Top	2
32-OOSBC-732106	SIDE BRACKET, Bottom	2
32-OOSBC-732107	SPACER, Platen & Roller Assy	4
32-OOSBC-732108	ROLLER ASSY, Platen, Top	2
32-OOSBC-732118	BUSHING, Top, Roller Assy	2
32-OOSBC-732119	ROLLER	1
32-OOSBC-732109	ROLLER ASSY, Platen, Bottom	2
32-OOSBC-732122	ROLLER, Bottom, Roller Assy	1
32-OOSBC-732123	BUSHING, Bottom, Roller Assy	2
32-OOSBC-732110	BUSHING, Aperture Plate Retaining	4
32-OOSBC-732124	APERTURE PLATE ASSY.	1
32-OOSBC-732127	APERTURE PLATE	1
32-OOSBC-732128	SPACER, Aperture Plate	2
32-OOSBC-732129	ANGLE, Aperture Plate	2
32-OOSBC-732130	TUBE WELDED ASSY, Data Recorder	1

PART NO.	PART NAME	UNITS PER ASSEMBLY
32-OOSBC-732126	CENTER ROLLER SUPPORT, Top	1
32-OOSBC-732116	PIN, Pivot, Center Supports	1
32-OOSBC-732117	ROLLER SUPPORT, Center Top	1
32-OOSBC-730175-20456	SCREW, Fl.Hd. Soc. Cap, 4-40 NC-2x3/8 long	4
32-OOSBC-730175-20634	SCREW, Soc.Hd. Cap, 4-40 NC-2x3/8 long	12
32-OOSBC-730184-20534	WASHER, Spring Lock 4	12
32-OOSBC-732702-20006	ELBOW, Pipe Thd.&Hose 90°	1
32-OOSBC-732328	FILM TAKE-UP ASSY.	2
32-OOSBC-732164	ROLLER ASSY, Shuffle	1
32-OOSBC-732119	ROLLER	1
32-OOSBC-732165	HUB, Shuffle Roller	2
32-OOSBC-732307	ARM ASSY, Film Take-Up, Left	1
32-OOSBC-732333	ARM, Film Take-Up, Left	1
32-OOSBC-732338	STUD, Roller	1
32-OOSBC-732308	ARM ASSY, Film Take-Up, Right	1
32-OOSBC-732334	ARM, Film Take-Up, Right	1
32-OOSBC-732338	STUD, Roller	1
32-OOSBC-732329-1	BRACKET, Channel, L.H.	1
32-OOSBC-732329-2	BRACKET, Channel, R.H.	1
32-OOSBC-732330	FOLLOWER BRACKET ASSY, IMC Cam	1
32-OOSBC-732151	ROLLER, Shuffle Lever	2
32-OOSBC-732152	STUD, Shuffle Lever	2
32-OOSBC-732331	BRACKET, IMC Cam Follower	1
32-OOSBC-732332	BRACKET, IMC Follower, Channel	1
32-OOSBC-732336	BRACKET ASSY, Roller Pivot	1
32-OOSBC-732335	BRACKET, Film Take-Up	1
32-OOSBC-732337	BRACKET, Roller Pivot	1
32-OOSBC-730185-20066	PIN, Dowel, 1/8 Dia.x1/2 lg.	1
32-OOSBC-730186-20003	RIVET, Rd.Hd. Alum., 3/32 Dia. x 3/16 lg	2
32-OOSBC-730175-20603	SCREW, Soc.Hd. Cap 8-32 NC-2 x 1/2 lg.	6
32-OOSBC-730175-20620	SCREW, Soc.Hd. Cap 4-40 NC-2 x 1/4 lg.	4
32-OOSBC-730175-20655	SCREW, Soc.Hd. Cap 6-32 NC-2 x 3/8 lg.	4
32-OOSBC-730180-20021	NUT, Plain 4-40 NC-2	4
32-OOSBC-730180-20044	NUT, Plain 8-32 NC-2	2

PART NO.	PART NAME	UNITS PER ASSEMBLY
32-OOSBC-730180-20058	NUT, Plain 6-32 NC-2	4
32-OOSBC-730184-20505	WASHER, Lock #6	4
32-OOSBC-730184-20514	WASHER, Lock #8	6
32-OOSBC-730184-20519	WASHER, Lock #4	4
32-OOSBC-732717	DATA RECORDER & CONNECTOR ASSY	1
32-OOSBC-732718	CONNECTOR & WIRE ASSY, Data Recorder	1
32-OOSBC-732702-20007	PLUG, Miniature Connector	1
32-OOSBC-732702-20008	CONNECTOR, Miniature Side Mtg.	1
32-OOSBC-730189-20007	TERMINAL, Sta-Kon	2
32-OOSBC-737810	DATA RECORDER ASSY, Double	1
32-OOSBC-737811	HOUSING ASSY, Double Lens	1
32-OOSBC-737812	HOUSING SUB ASSY, Double Lens	1
32-OOSBC-737813	HOUSING, Double, Machined	1
32-OOSBC-737841	HOUSING, Double Cast	1
32-OOSBC-737819	PLUG	2
32-OOSBC-737816	SPRING, Contact, Positive	1
32-OOSBC-737817	BASE, Contact, Positive	1
32-OOSBC-737818	RETAINER, Contact, Positive	1
32-OOSBC-737820	SPRING, Contact, Negative	2
32-OOSBC-737821	SPRING, Retaining	1
32-OOSBC-737840	LENS ASSY	1
32-OOSBC-737844	HOLDER, Lens	1
32-OOSBC-737845	RETAINER, Lens	1
32-OOSBC-737802-005	LENS, Achromatic	1
32-OOSBC-731302-009	BULB, Aircraft Type, G.E. #334, 28V	2
32-OOSBC-737802-002	SCREW, Bnd.Hd. #4-40NC-2x1/4 lg., Black	2
32-OOSBC-730175-019	SCREW, Set, Hex.Soc.Hd., Cone Pt, Nylon #2-56NC-2x1/8 lg., S/S	2
32-OOSBC-730175-305	SCREW, Bnd.Hd., #4-40NC-2x3/16 lg., S/S, Bl.Ox.	7
32-OOSBC-737846	PLATE, Baffle	1
32-OOSBC-737822	HOUSING ASSY, Instrument	1
32-OOSBC-737823	COVER, Counter	1
32-OOSBC-737824	PLATE, Instrument, Machined	1
32-OOSBC-737843	PLATE, Instrument, Cast	1

PART NO.	PART NAME	UNITS PER ASSEMBLY
32-OOSBC-737825	SHIELD, Counter	1
32-OOSBC-737826	PIN, Hinge, Shield	1
32-OOSBC-737827	CRYSTAL, Timer	1
32-OOSBC-737834	EXTENSION ASSY, Stem	1
32-OOSBC-737835	STEM, Timer	1
32-OOSBC-731453-3	STEM, Timer	1
32-OOSBC-737836	CAP, Extension	1
32-OOSBC-737837	EXTENSION, Stem	1
32-OOSBC-737838	PLUG, Timer	1
32-OOSBC-737839	CONNECTOR, Winchester, Rework.	1
32-OOSBC-737802-003	CONNECTOR, Winchester, Cat. #JFIP-IS	1
32-OOSBC-731453-2	RETAINER, Timer	1
32-OOSBC-731453-4	MOVEMENT, Timer	1
32-OOSBC-737802-001	COUNTER, Magnetic, Resetable, Four Figure, Abrams	1
32-OOSBC-730175-019	SCREW, Set, Hex.Soc.Hd., #2-56 NC-2x1/8 lg., S/S, Bl.Ox.	1
32-OOSBC-730175-304	SCREW, Bnd.Hd., #2-56NC-2x1/2 lg., S/S, Bl.Ox	8
32-OOSBC-730175-337	SCREW, Bnd.Hd., #3-48NC-2x1/4 lg., S/S, Bl.Ox	2
32-OOSBC-730175-442	SCREW, Flat Hd., #3-48NC-2x3/8 lg., S/S, Bl.Ox	1
32-OOSBC-737802-004	WIRE, #20 ga., Stranded, Wh. Plastic Covered	6"
32-OOSBC-732759	STRUCTURE ASSY, Platen Support	1
32-OOSBC-732719	COVER PLATE, Platen Support Structure	4
32-OOSBC-732720	FLANGE, Light Trap Attachment	1
32-OOSBC-732734	BRACKET, Data Recorder	1
32-OOSBC-732760	STRUCTURE ASSY, Mach.Platen Support	1
32-OOSBC-732725	STRUCTURE, Platen Supt., Welded	1
32-OOSBC-732761	STUD, Platen Support Structure	4
32-OOSBC-732771-1	PANEL ASSY, Access, Platen Supt. Struct. (side)	1
32-OOSBC-732772-1	PANEL, Access, Platen Supt. Struct. (side)	1
32-OOSBC-732702-20002	GASKET, Sponge Rubber	1

PART NO.	PART NAME	UNITS PER ASSEMBLY
32-OOSBC-732771-2	PANEL ASSY, Access, Platen Supt. Struct. (Bot.)	1
32-OOSBC-732772-2	PANEL, Access, Platen Supt. Struct. (Bot.)	1
32-OOSBC-732702-20002	GASKET, Sponge Rubber	1
32-OOSBC-732773	PANEL ASSY, Platen Support Struct.	2
32-OOSBC-732774	PANEL, Platen Support Struct.	1
32-OOSBC-732702-20002	GASKET, Sponge Rubber	1
32-OOSBC-730175-20452	SCREW, Fl.Hd. (82°), 6-32 NC-2 x 3/8 lg	2
32-OOSBC-730184-20545	WASHER, Lock #6 Csk., Stl.Bl.ox.	2
32-OOSBC-730186-20068	RIVET, Alum. Univ.Hd., 1/16 dia. x 1/4 lg	20
32-OOSBC-730186-20092	RIVET, Alum. Univ.Hd., 1/16 dia. x 5/16 lg.	42
32-OOSBC-730187-20020	NUT, Insert (Banc-Lok) 8-32 NC-2.	4
32-OOSBC-732762	SPACER ASSY, Platen Support	4
32-OOSBC-732765	SPACER, Platen Support	1
32-OOSBC-732766	PIN, Platen Support Spacer	4
32-OOSBC-732763	SPACER, Platen Positioning	4
32-OOSBC-730175-20300	SCREW, Binder Hd.,4-40 NC-2 x 1/4 lg.	6
32-OOSBC-730175-20655	SCREW, Soc.Hd. Cap, 6-32 NC-2 x 3/8 lg.	4
32-OOSBC-730175-20663	SCREW, Soc.Hd. Cap, 8-32 NC-2 x 5/8 lg.	4
32-OOSBC-730180-20064	NUT, Self-Locking, 10-32 NF-2	4
32-OOSBC-730180-20067	NUT, Self-Locking (thin) 8-32 NC-2	4
32-OOSBC-730184-20033	WASHER, Plain #8 (.016 thick)	4
32-OOSBC-730184-20036	WASHER, Plain #10 (.032 thick)	4
32-OOSBC-730184-20505	WASHER, Lock (Int. teeth) #6	6
32-OOSBC-730184-20519	WASHER, Lock (Ext. teeth) #4	4
32-OOSBC-730187-20038	CLIP, Burndy Nylon	6
32-OOSBC-732722	INTERMEDIATE SECTION ASSY, Optical Structure	1
32-OOSBC-732723	INTERMEDIATE SECTION, Optical Structure, Mach.	1
32-OOSBC-732767	INTERMEDIATE SECTION, Optical Structure, Welded Assy	1

PART NO.	PART NAME	UNITS PER ASSEMBLY
32-OOSBC-732724	INTERMEDIATE SECTION, Optical Structure, Rough Mach.	1
32-OOSBC-732768	PAD, Support Bracket Mtg.	2
32-OOSBC-732769	BOSS, Oblique Drive Mtg.	2
32-OOSBC-732770	RIB, Intermediate Section	2
32-OOSBC-732754	SWITCH ASSY, Oblique Unit.	1
32-OOSBC-732755	BRACKET, Seeker, Oblique Unit	1
32-OOSBC-732702-20004	AUXILIARY ACTUATOR, for V3-1 Switch	7
32-OOSBC-732702-20005	MICROSWITCH, V3-1	7
32-OOSBC-732757-1	BRACKET, Optical Struc. Support, Mach., L.H.	1
32-OOSBC-732758-1	BRACKET, Optical Struct. Supt., Casting, L.H.	1
32-OOSBC-732757-2	BRACKET, Optical Struc. Support, Mach., R.H.	1
32-OOSBC-732758-2	BRACKET, Optical Struc. Supt., Casting, R.H.	1
32-OOSBC-730180-20061	NUT, Self-locking, 6-32 NC-2	8
32-OOSBC-730175-20663	SCREW, Soc. Hd. Cap, 8-32 NC-2 x 5/8 long	8
32-OOSBC-730175-20651	SCREW, Soc. Hd. Cap, 6-32 NC-2 x 5/8 long	8
32-OOSBC-730175-20658	SCREW, Soc. Hd. Cap, 10-32 NF-2 x 9/16 long	4
32-OOSBC-730184-20034	WASHER, Plain (.016 thick) #6	8
32-OOSBC-730184-20514	WASHER, Lock (Ext. teeth) #8	8
32-OOSBC-730184-20546	WASHER, Lock (Int. teeth) #10	4
32-OOSBC-732728	OBLIQUE UNIT ASSY.	1
32-OOSBC-738250	LENS, Barrel Assy	1
32-OOSBC-732726	FLANGE, Lens Light Seal	1
32-OOSBC-732727	SPACER, Lens Adjustment	6
32-OOSBC-732729	SUPPORT ASSY, Optical Structure	1
32-OOSBC-732730	BEARING ASSY, Optical Support	1
32-OOSBC-732731	BEARING, Optical Support	1
32-OOSBC-732733	PAD, Mirror Support Mtg.	1
32-OOSBC-732750	CAM SEGMENT, Oblique Unit	1
32-OOSBC-730175-20443	SCREW, 82°, Fl. Hd. Soc. 10-32 NF-2x5/16 lg	3
32-OOSBC-730175-20654	SCREW, Soc. Hd. Cap, 8-32 NC-2x25/32 lg	3

PART NO.	PART NAME	UNITS PER ASSEMBLY
32-OOSBC-730184-20514	WASHER, Lock (Ext. teeth) #8	3
32-OOSBC-730184-20547	WASHER, Lock (Ext. teeth) #10 Csk	3
32-OOSBC-732735	FRAME, Mach., Mirror Mtg.	1
32-OOSBC-732753	FRAME WELDED ASSY, Mirror Mtg.	1
32-OOSBC-732736	CONE ASSY, Lens	1
32-OOSBC-732737	CONE, Lens	1
32-OOSBC-732738	SUPPORT, Mirror Mtg. Frame	1
32-OOSBC-732739	FLANGE, Lens Mtg.	1
32-OOSBC-732740	ANGLE, Cover Retaining	11
32-OOSBC-730175-20428	SCREW, 82°, Fl. Hd. Soc., 8-32 NC-2 x 3/8 lg.	2
32-OOSBC-730175-20627	SCREW, But. Hd. Soc., 10-32 NF-2 x 3/8 lg.	4
32-OOSBC-730184-20531	WASHER, Lock (Ext. teeth) #8 Csk	2
32-OOSBC-730187-20020	NUT, Banc-Lok Alum., 8-32 NC-2	11
32-OOSBC-730175-20431	SCREW, 82°, Fl. Hd. Soc., 10-32 NF-2 x 7/16 long	2
32-OOSBC-730175-20625	SCREW, Soc. Hd. Cap, 6-32 NC-2 x 1/4 long	15
32-OOSBC-730175-20641	SCREW, Soc. Hd. Cap, 10-32 NF-2 x 13/16 long.	3
32-OOSBC-730180-20031	NUT, Self-locking, 10-32 NF-2	3
32-OOSBC-730184-20521	WASHER, Lock, #10	3
32-OOSBC-730184-20523	WASHER, Lock, #10	2
32-OOSBC-732741	MIRROR ASSY	1
32-OOSBC-732742	SOCKET, Ball Joint	1
32-OOSBC-732743	SCREW, Ball, Mirror Support	1
32-OOSBC-730183-20008	BOLT, Hex. Hd., Alum., 10-32 NF-2 x 21/32 lg.	2
32-OOSBC-730184-20007	WASHER, Plain #10	2
32-OOSBC-155-0003	MIRROR ASSY	1
32-OOSBC-732744	SPACER, Mirror Adjustment	2
32-OOSBC-732745	COVER ASSY, Lens Cone	1
32-OOSBC-732746	COVER, Lens Cone	1
32-OOSBC-732748	RIB, Lens Cone Cover	1
32-OOSBC-730186-20068	RIVET, Alum. Univ. Hd., 1/16 dia. x 1/4 long	20

PART NO.	PART NAME	UNITS PER ASSEMBLY
32-OOSBC-732751	GASKET, Lens Cone Cover	1
32-OOSBC-732702-20001	RUBBERCRAFT EXTRUSION, #1070, 42 long	1
32-OOSBC-732752	SHIM, Mirror Adjusting	20
32-OOSBC-730175-20633	SCREW, Soc.Hd. Cap, 1/4-28 x 1-13/16 long	6
32-OOSBC-730175-20637	SCREW, Soc.Hd. Cap, 8-32 NC-2 x 13/16 long	11
32-OOSBC-730180-20054	NUT, Self-locking (thin), 1/4-28	9
32-OOSBC-730184-20011	WASHER, Plain, #8	11
32-OOSBC-730184-20016	WASHER, Plain, 1/4 I.D.	9
32-OOSBC-732732	COVER ASSY, Access Panel, Platen Support Structure	2
32-OOSBC-732756	COVER, Access Panel, Platen Support Structure	1
32-OOSBC-732702-20003	GASKET, Sponge Rubber	2
32-OOSBC-732749	SHIELD, Bearing	1
32-OOSBC-732764-1	SPACER, Platen Adjusting (Test)	2
32-OOSBC-732764-2	SPACER, Platen Adjusting (Test)	2